

WHAT IS CLAIMED IS:

1. A sintered ferrite body having a main composition comprising 63-80% by mol of  $\text{Fe}_2\text{O}_3$ , and 3-15% by mol of  $\text{ZnO}$ , the balance being manganese oxide;  $R_{\text{cal}}$  determined from the  $\text{Fe}_2\text{O}_3$  content X (% by mol) by the formula (1) of  $R_{\text{cal}} = [200(X-50)]/(3X)$ , and the ratio R (%) of  $\text{Fe}^{2+}$  per the total amount of Fe in said sintered body meeting the condition of  $R_{\text{cal}} - 2.0 \leq R \leq R_{\text{cal}} + 0.3$ ; and said sintered body having a density of  $4.9 \text{ g/cm}^3$  or more.
2. The sintered ferrite body according to claim 1, wherein the main composition comprises 68-75% by mol of  $\text{Fe}_2\text{O}_3$ , and 3-12% by mol of  $\text{ZnO}$ , the balance being manganese oxide.
3. The sintered ferrite body according to claim 1 or 2, comprising 0.02-0.3% by weight (calculated as  $\text{CaCO}_3$ ) of Ca, and 0.003-0.015% by weight (calculated as  $\text{SiO}_2$ ) of Si, as sub-components, per 100% by weight of the main composition.
4. The sintered ferrite body according to any one of claims 1-3, wherein it has volume resistivity of  $0.1 \Omega \cdot \text{m}$  or more.
5. The sintered ferrite body according to any one of claims 1-4, wherein it has a minimum-core-loss temperature of  $80^\circ\text{C}$ - $120^\circ\text{C}$ .
6. An electronic part comprising a magnetic core formed by the sintered ferrite body recited in any one of claims 1-5, and winding.
7. A method for producing a sintered ferrite body having a main composition comprising 63-80% by mol of  $\text{Fe}_2\text{O}_3$ , and 3-15% by mol of  $\text{ZnO}$ , the balance being manganese oxide;  $R_{\text{cal}}$  determined from the  $\text{Fe}_2\text{O}_3$  content X (% by mol) by the formula (1) of  $R_{\text{cal}} = [200(X-50)]/(3X)$ , and the ratio R (%) of  $\text{Fe}^{2+}$  per the total amount of Fe in the sintered body meeting the condition of  $R_{\text{cal}} - 2.0 \leq R \leq R_{\text{cal}} + 0.3$ ; and said sintered body having a density of  $4.9 \text{ g/cm}^3$  or more, said method comprising a step of adding a binder to ferrite powder, a molding step, a binder-removing step and a sintering step, said ferrite powder having a spinelization ratio S of 10-60%; the amount V (% by weight) of said

binder added being in a range of  $1.3 - 0.02S \leq V \leq 2.3 - 0.02S$ , assuming that the total amount of said ferrite powder and said binder is 100% by weight; the oxygen concentration in the atmosphere from said binder-removing step to the completion of said sintering step being 0.1% or less by volume.

- 5     8.            The method for producing a sintered ferrite body according to claim 7, wherein said spinelization ratio of ferrite powder is 10-40%.
9.            The method for producing a sintered ferrite body according to claim 7 or 8, wherein said ferrite powder has a specific surface area of 3000-7000  $\text{m}^2/\text{kg}$ .
- 10    10.           The method for producing a sintered ferrite body according to any one of claims 7-9, wherein the main composition of said sintered ferrite body comprises 68-75% by mol of  $\text{Fe}_2\text{O}_3$ , and 3-12% by mol of  $\text{ZnO}$ , the balance being manganese oxide.
11.           The method for producing a sintered ferrite body according to any
- 15 one of claims 7-10, wherein 0.02-0.3% by weight (calculated as  $\text{CaCO}_3$ ) of Ca, and 0.003-0.015% by weight (calculated as  $\text{SiO}_2$ ) of Si are added as sub-components to 100% by weight of said main composition.